Technologies as a support for the generalization of formative assessment practices

Atelier "Évaluation formative…"

Problems

- French students' learning outcomes do not meet institutional requirements (PISA)
- Teachers have difficulties to evaluate:
  - students' characteristics (cognitive, motivational and metacognitive)
  - students learning strategies
  - students level of knowledge and skills
- In the same way, students encounter difficulties to self-assess these three dimensions

However...

- Research provides empirical evidences:
  - self-regulated learners are more successful
  - Teaching based on formative assessment improves self-regulated learning skills
- Formative assessment practices are not generalized yet. Why ?

Some issues...

- Designing a comprehensive formative assessment is hard and time-consuming
- Analyzing results and providing an efficient and timely feedback is also hard and time-consuming
- Providing such an assessment without technology isn't manageable in some contexts

Grands Challenges

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Main goal

The generalization of formative assessment practices

Our proposition

Technologie as a support

Benefits

- Improve students self-regulated learning skills
- Promote deep learning strategies or skills
- Foster and sustain students motivation
- Enhance students academic achievements
- Diploma reliability (better knowledge on what is taught)
- Optimize teachers workload and awareness

Actions to reach this goal

- Design, implement and test *interoperable* tools in order to:
  - diagnose students' cognitive, motivational, self-regulative level
  - monitor learners' actual learning and metacognitive strategies, and engagement
  - Learning Analytics for the rest of us !
- Teacher training program based on previous items, evangelisation

Some inspiring tools...

Course summary analysis

[TMDL+08] S. Trausan-Matu, P. Dessus, B. Lemaire, S. Mandin, E. Villiot-Leclercq, T. Rebedea, C. Chiru, D. Mihaila, & V. Zampa. Deliverable d5.1 ltfll – support and feedback design. Technical Report, OUNL, Research report of the LTfLL Project, 2008.

Self Explanation

Entrez votre explication ci-dessous pour voir combien vous avez compris à partir du texte:

Choisir une tâche menant à un apprentissage dans le tableau I de ce document (qui sera donc lu en séance) et en approfondir les buts, contextes d'utilisation et avantages et inconvénients, à la fois du côté de la production (élève) et de l'évaluation (en-seignant) (1 page), en étendant et complétant les rubriques du Tableau.

Les documents suivants peuvent être utilisés (ainsi que toute autre ressource : document récupéré par internet, livre, article).

Envoyer pour examen

- Path: 0.74
- WuPalmer: 0.86
- LDA: 0.92

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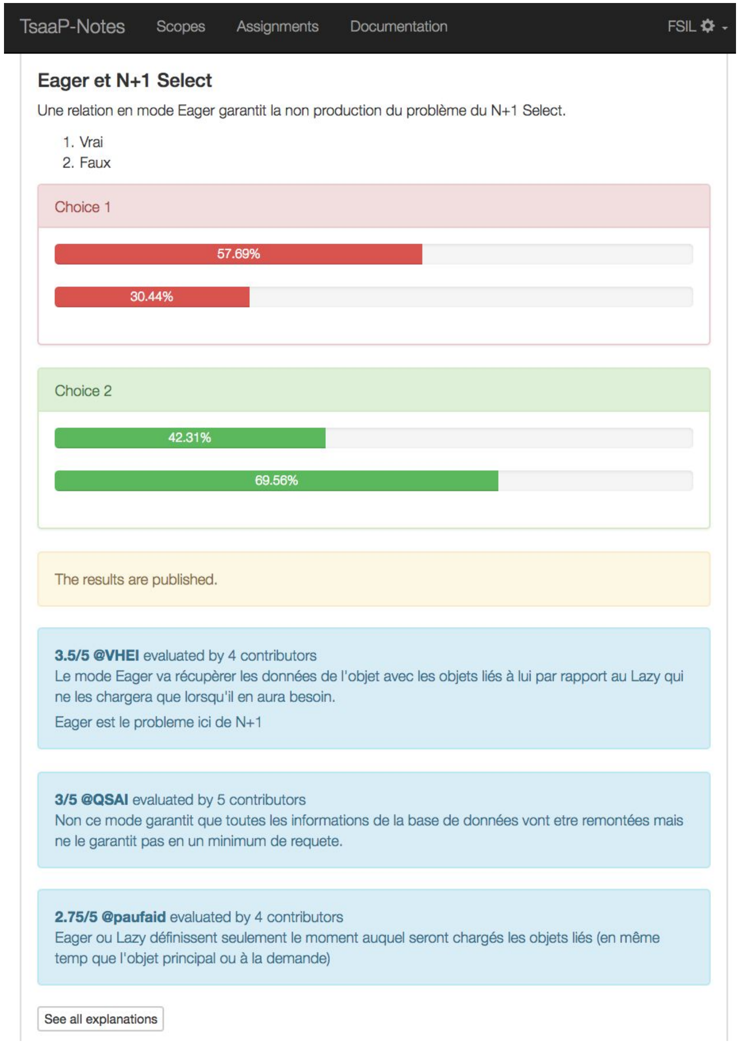
- Tsaap-Notes - Peer assessment of written argumentations during lectures
- https://notes.tsaap.eu/tsaap-notes



Situated collaborative note-taking

76 CHAPTER 4 MOMENTUM

In the preceding two chapters, we developed a mathematical framework for describing motion along a straight line. In this chapter, we continue our study of motion by investigating inertia, a property of objects that affects their motion. The experiments we carry out in studying inertia lead us to discover one of the most fundamental laws in physics—conservation of momentum.

4.1 Friction

Picture a block of wood sitting motionless on a smooth wooden surface. If you give the block a shove, it slides some distance but eventually comes to rest. Depending on the smoothness of the block and the smoothness of the wooden surface, this stopping may happen sooner or it may happen later. If the two surfaces in contact are very smooth and slippery, the block slides for a longer time interval than if the surfaces are rough or sticky. This you know from everyday experience: A hockey puck slides easily on ice but not on a rough road.

Figure 4.1 shows how the velocity of a wooden block decreases on three different surfaces. The slowing down is due to *friction*—the resistance to motion that one surface or

Figure 4.2 Low-friction track and carts used in the experiments described in this chapter.

You may wonder whether it is possible to make surfaces that have no friction at all, such that an object, once given a shove, continues to glide forever. There is no totally frictionless surface over which objects slide forever, but there are ways to minimize friction. You can, for instance, float an object on a cushion of air. This is most easily accomplished with a low-friction track—a track whose surface is dotted with little holes through which pressurized air blows. The air serves as a cushion on which a conveniently shaped object can float, with friction between the object and the track all but eliminated. Alternatively, one can use wheeled carts with low-friction bearings on an ordinary track. Figure 4.2 shows low-friction carts you may have encountered in your

ANNOTATION

Alan: I remember, in high school, being amazed at how quickly carts could travel on these tracks - air would blow up through these tiny holes evenly distributed along the length of the track and the cart would essentially float on the air and consequently - the cart would move very quickly with the slightest push.

Bob: Although there is no way to create frictionless surfaces, I find it interesting that we consider experiments "in the absence of friction." In a way, this relates back to Chapter 1.5 where we talked about the importance of having too little or too much information in our representations. In some cases, the friction is so insignificant that we ignore it (simplifying our representation).

Claire: Does this only apply to solid surfaces? I feel as if a substance that floats on water either has negligible or very little friction.

Alan: Why is this? I don't get it.

David: believe this applies to almost every surface, although I'm not sure if water would count more as resistance than friction. Anyways, the best example I could think of would be a surf board. If people who were paddling in the same direction as the waves experienced no resistance, they would continually speed up, and eventually reach very high speeds. However, in reality if they were two stop paddling they'd slow down and only the waves would slowly push them to shore.

http://nb.mit.edu/

Risks

- Acceptability
  - Generalization vs. pedagogical freedom ?
  - One set of tools to rule them all ?
    - ethical dimension
    - domain specific dimension

Key factors of success

- Usages guiding the generalization policy
- User centric design